

WHAT IS CLAIMED IS:

1. A method for supporting data transfers of a legacy application, the legacy application comprising a local peer in a local end-system at a first point in a network and a remote peer in a remote end-system at a different point in the network, the method comprising the steps of:

in a local emulation module in the local end-system, receiving commands and data from the local peer;

said local emulation module in response to said commands emulating with the local peer a negotiation of a wireless connection of the remote peer with the local peer;

transferring said data between said local emulation module and a remote emulation module in said remote end system via at least one local emulation module to remote emulation module connection;

said remote emulation module, in response to receiving said data, emulating with the remote peer a negotiation of a wireless connection of the local peer with the remote peer; and

said remote emulation module relaying said data received from said local emulation module to the remote peer.

2. The method of claim 1, wherein said local emulation module to remote emulation module connections are transport connections.

3. The method of claim 2, wherein said transport connections are connection oriented.

4. The method of claim 3, wherein said data transfer step further comprises opening at least one connection oriented transport connection between said local emulation module and said remote emulation module prior to transferring said data and closing said transport connections subsequent to transferring said data.

5. The method of claim 1, wherein said data is compressed when traversing said local emulation module to remote emulation module connection.
6. The method of claim 5, wherein said data is compressed using a compression selected from the group consisting of 3rd-Order Arithmetic, Z-Lib, RLE and LZW.
7. The method of claim 1, wherein said data is encrypted when traversing said local emulation module to remote emulation module connection.
8. The method of claim 7, wherein said data is encrypted using an encryption selected from the group consisting of DES, 3-DES, FIPS140-1, RSA and AES.
9. The method of claim 1, wherein said emulated wireless connection is RD-LAP transmitted over GFSK.
10. The method of claim 1, wherein said local end system is a mobile end system and said remote end system is a fixed end system.
11. The method of claim 1, wherein said local end system is a fixed end system and said remote end system is a mobile end system.
12. The method of claim 1, wherein said local end system and said remote end systems are mobile end systems.
13. The method of claim 1, wherein said emulated wireless connection is between a wireless modem and a radio network controller.
14. The method of claim 2, wherein the network is the Internet and said transport connections are selected from the group consisting of UDP and TCP.

15. The method of claim 14, wherein said transport connections are TCP.
16. The method of claim 2, wherein the network is an ISO compatible network and said transport connections are OSI class 4 transport connections.
17. The method of claim 1, wherein said local and remote emulation modules include a transport layer using protocols conforming to ISO 8073.
18. The method of claim 17, wherein said local and remote emulation modules communicate with said transport layer via an ISO 8072 compatible interface.
19. The method of claim 1, wherein said local and remote emulation modules include a TCP transport layer.
20. The method of claim 19, wherein said local and remote emulation modules communicate with said transport layer via a socket interface.
21. The method of claim 1, wherein said local and remote emulation modules include a TCP transport layer, said local module is a TCP server and said remote module is a TCP client.
22. The method of claim 1, wherein said local and remote emulation modules include a TCP transport layer, said local module is a TCP client and said remote module is a TCP server.
23. The method of claim 1, wherein said local and remote emulation modules emulate a DCE.
24. The method of claim 1, wherein said local and remote emulation modules emulate a serial interface.

25. The method of claim 1, wherein said local and remote emulation modules emulate a V.34 interface.
26. The method of claim 10, wherein said local emulation module emulates a Native Command Language interface between said local emulation module and said local peer.
27. The method of claim 11, wherein said remote emulation module emulates a Native Command Language interface between said remote emulation module and said remote peer.
28. The method of claim 1, wherein said local and remote emulation modules emulate a Hayes compatible interface between said emulation modules and said peers.
29. The method of claim 1, wherein said local and remote emulation modules emulate the API of a Native Command Language interface between said emulation modules and said peers.
30. The method of claim 1, wherein said data transferring step is supported by a data communications network comprising a wireless connection compatible with the legacy application.
31. The method of claim 30, wherein said data is encrypted when traversing said wireless connection.
32. The method of claim 31, wherein said data is encrypted using an encryption selected from the group consisting of DES, 3-DES, FIPS140-1, RSA and AES.

33. The method of claim 30, wherein said data is compressed when traversing said wireless connection.

34. The method of claim 33, wherein said data is compressed using a compression selected from the group consisting of 3rd-Order Arithmetic, Z-Lib, RLE and LZW.

35. The method of claim 30, wherein said wireless connection is RD-LAP transmitted over GFSK.

36. The method of claim 1, wherein said emulation of a negotiation of a wireless connection comprises emulation of a wireless connection establishment, emulation of a wireless data transfer and emulation of a wireless connection release.

37. A system for supporting data transfers of a legacy application, the legacy application comprising a local peer in a local end-system at a first point in a network and a remote peer in a remote end-system at a different point in the network, the system comprising:

- a local emulation module in the local end-system;
- a remote emulation module in the remote end-system; and
- at least one connection between said local emulation module and said remote emulation module; and

wherein said local emulation module receives commands and data from the local peer, said local emulation module in response to said commands emulating with the local peer a negotiation of a wireless connection of the remote peer with the local peer, said local emulation module transferring said data to said remote emulation module via said at least one connection, said remote emulation module in response to receiving said data emulating with the remote peer a negotiation of a wireless connection of the local peer with the remote

peer, and said remote emulation module relaying data received from said local emulation module to the remote peer.

38. The system of claim 37, wherein said local emulation module to remote emulation module connections are transport connections.

39. The system of claim 38, wherein said transport connections are connection oriented.

40. The system of claim 37, wherein said emulated wireless connection is RD-LAP transmitted over GFSK.

41. The system of claim 37, wherein said data is compressed when traversing said local emulation module to remote emulation module connections.

42. The system of claim 41, wherein said data is compressed using a compression selected from the group consisting of 3rd-Order Arithmetic, Z-Lib, RLE and LZW.

43. The system of claim 37, wherein said data is encrypted when traversing said local emulation module to remote emulation module connections.

44. The system of claim 43, wherein said data is encrypted using an encryption selected from the group consisting of DES, 3-DES, FIPS140-1, RSA and AES.

45. The system of claim 37, wherein said local end system is a mobile end system and said remote end system is a fixed end system.

46. The system of claim 37, wherein said local end system is a fixed end system and said remote end system is a mobile end system.

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47. The system of claim 37, wherein said local end system and said remote end systems are mobile end systems.
48. The system of claim 37, wherein said emulated wireless connection is between a wireless modem and a radio network controller.
49. The system of claim 38, wherein the network is the Internet and said transport connections are selected from the group consisting of UDP and TCP.
50. The system of claims 49, wherein said transport connections are TCP.
51. The system of claim 38, wherein the network is an ISO compatible network and said transport connections are OSI class 4 transport connections.
52. The system of claim 37, wherein said local and remote emulation modules include a transport layer using protocols conforming to ISO 8073.
53. The system of claim 52, wherein said local and remote emulation said local and remote emulation modules communicate with said transport layer via an ISO 8072 compatible interface.
54. The system of claim 37, wherein said local and remote emulation modules include a TCP transport layer.
55. The system of claim 54, wherein said local and remote emulation modules communicate with said transport layer via a socket interface.
56. The system of claim 37, wherein said local and remote emulation modules include a TCP transport layer, said local module is a TCP server and said remote module is a TCP client.

57. The system of claim 37, wherein said local and remote emulation modules include a TCP transport layer, said local module is a TCP client and said remote module is a TCP server.

58. The system of claim 45, wherein said local emulation module emulates a DCE.

59. The system of claim 46, wherein said remote emulation module emulates a DCE.

60. The system of claim 45, wherein said local emulation module emulates a serial interface.

61. The system of claim 46, wherein said remote emulation module emulates a serial interface.

62. The system of claim 45, wherein said local emulation module emulates a V.34 interface.

63. The system of claim 46, wherein said remote emulation module emulates a V.34 interface.

64. The system of claim 45, wherein said local emulation module emulates a Native Command Language interface between said local emulation module and said local peer.

65. The system of claim 46, wherein said remote emulation module emulates a Native Command Language interface between said remote emulation module and said remote peer.

66. The system of claim 45, wherein said local emulation module emulates a Hayes compatible interface between said local emulation module and said local peer.

67. The system of claim 46, wherein said remote emulation module emulates a Hayes compatible interface between said remote emulation module and said remote peer.

68. The system of claim 37, wherein said connection is supported by a data communications network comprising a wireless connection compatible with the legacy application.

69. The system of claim 68, wherein said data is encrypted when traversing said wireless connection.

70. The system of claim 69, wherein said data is encrypted using an encryption selected from the group consisting of DES, 3-DES, FIPS140-1, RSA and AES.

71. The system of claim 68, wherein said data is compressed when traversing said wireless connection.

72. The system of claim 71, wherein said data is compressed using a compression selected from the group consisting of 3rd-Order Arithmetic, Z-Lib, RLE and LZW.

73. The system of claim 68, wherein said wireless connection is RD-LAP transmitted over GFSK.

74. The system of claim 37, wherein said emulation of a negotiation of a wireless connection comprises emulation of a wireless connection establishment,

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emulation of a wireless data transfer and emulation of a wireless connection release.

75. The system of claim 37 further comprising a local packet manager and a remote packet manager and wherein said at least one connection between said local emulation module and said remote emulation module is between said local packet manager and a remote packet manager.

76. The system of claim 75 wherein said local packet manager compresses said data prior to transmission to said remote packet manager and wherein said remote packet manager decompresses said compressed data on reception.

77. The system of claim 75 wherein said local packet manager encrypts said data prior to transmission to said remote packet manager and wherein said remote packet manager decrypts said encrypted data on reception.

78. The system of claim 75 wherein said remote packet manager compresses said data prior to transmission to said local packet manager and wherein said local packet manager decompresses said compressed data on reception.

79. The system of claim 75 wherein said remote packet manager encrypts said data prior to transmission to said local packet manager and wherein said local packet manager decrypts said encrypted data on reception.

80. A method for multiplexing data from at least one mobile legacy application with data from at least one mobile IP application, the method comprising the steps of:

in an emulation module, receiving commands and the data from the mobile legacy application;

said emulation module in response to said commands and the data emulating the negotiation of a wireless connection between the mobile legacy

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application and a fixed legacy application, said emulation module relaying said data to a packet manager; and

said packet manager receiving the data from the at least one IP application and multiplexing the IP application data with the legacy application data.

81. The method of claim 80, wherein said multiplexed data is compressed.

82. The method of claim 81, wherein said multiplexed data is compressed using a compression selected from the group consisting of 3rd-Order Arithmetic, Z-Lib, RLE and LZW.

83. The method of claim 81, wherein said multiplexed data is encrypted.

84. The method of claim 83, wherein said multiplexed data is encrypted using a compression selected from the group consisting of DES, 3-DES, FIPS140-1, RSA and AES.

85. A method for transferring data between at least one local legacy application/remote legacy application pair and data from at least one local IP application/remote IP application pair, the method comprising:

an emulation module, receiving commands and the data from the local legacy application;

said emulation module, in response to reception of said commands and the data, emulating the negotiation of a wireless connection between the local legacy application and the remote legacy application, said emulation module relaying the received data to a local packet manager; and

said local packet manager multiplexing the data received from said local emulation module with data received from the at least one local IP application and transferring said multiplexed data to a remote packet manager; and

wherein, on reception, said remote packet manager de-multiplexes said multiplexed data and transfers said de-multiplexed data to the appropriate remote legacy application or remote IP application.

86. An emulation module for emulating a connection between a mobile legacy application and a fixed legacy application, the mobile legacy application believing it is attached directly to a radio modem via a radio modem interface, the module comprising:

for each connection being emulated, an emulation process emulating the radio modem interface;

said emulation process receiving commands and data from the legacy application and in response to said commands and data, emulating the negotiation of a connection with the fixed legacy application.

87. The emulation module of claim 86, wherein said emulated radio modem interface is a DTE/DCE interface.

88. The emulation module of claim 86, wherein said emulated radio modem interface is a serial interface.

89. The emulation module of claim 86, wherein said emulated radio modem interface is a V.34 interface.

90. The emulation module of claim 86, wherein said emulated radio modem interface is a Native Command Language interface.

91. The emulation module of claim 86, wherein said emulated radio modem interface is a Hayes compatible interface.

92. The emulation module of claim 86, wherein said emulated negotiation comprises emulation of connection establish, emulation of data transfer and emulation of connection release.

93. A system for transferring data between at least one local legacy application/remote legacy application pair and data from at least one local IP application/remote IP application pair, the system comprising:

- a local emulation module and a remote emulation for each local legacy application/remote legacy application pair;

- a local packet manager and a remote packet manager;

- wherein said local emulation modules, in response to reception of commands and data from said local legacy applications, emulating the negotiation of a wireless connection between the local legacy application and the remote legacy application, said emulation module relaying the data to said local packet manager;

- wherein said local packet manager multiplexes the data received from said local emulation module with the data received from the at least one local IP application, said local packet manager transferring said multiplexed data to said remote packet manager; and

- wherein, on reception of said multiplexed data, said remote packet manager de-multiplexes said multiplexed data and transfers said de-multiplexed data to the appropriate remote legacy application or remote IP application.

94. The system of claim 93 wherein said local packet manager compresses said data prior to transmission to said remote packet manager and wherein said remote packet manager decompresses said compressed data on reception.

95. The system of claim 93 wherein said local packet manager encrypts said data prior to transmission to said remote packet manager and wherein said remote packet manager decrypts said encrypted data on reception.